Satisfaction of health professionals after implementation of a primary care hospital emergency centre in Switzerland: A prospective before-after study

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Abstract: BACKGROUND AND AIM: The increasing number of patients requiring emergency care is a challenge and leads to decreased satisfaction of health professionals at emergency departments (EDs). Thus, a Swiss hospital implemented a hospital-associated primary care centre at the ED. The study aim was to investigate changes in job satisfaction of ED staff before and after the implementation of this new service model and to measure hospital GPs' (HGPs) satisfaction at the hospital-associated primary care centre. METHOD: This study was embedded in a large prospective before-after study over two years. We examined changes in job satisfaction with a questionnaire followed by selected interviews approaching all of the involved 25 ED staff members and 38 HGPs. RESULTS: The new emergency care model increased job satisfaction of ED staff and HGPs in all measured dimensions. The overall job satisfaction of ED employees improved from 76.5 to 83.9 points (visual analogue scale 0-100; difference 7.4 points [95% CI: 1.3 to 13.5, p = 0.02]). 86% of 29 HGPs preferred to provide their out-of-hours service at the new hospital-associated primary care centre. CONCLUSIONS: The hospital-associated primary care centre is a promising option to improve job satisfaction of different health professionals in emergency care.

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Satisfaction of health professionals after implementation of a primary care hospital emergency centre in Switzerland: A prospective before-after study.

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Abstract

Background and aim

The increasing number of patients requiring emergency care is a challenge and leads to decreased satisfaction of health professionals at emergency departments (ED). Thus, a Swiss hospital implemented a hospital-associated primary care centre at the ED.

The study aim was to investigate changes in job satisfaction of ED staff before and after the implementation of this new service model and to measure hospital GPs' (HGPs) satisfaction at the hospital-associated primary care centre.

Method

This study was embedded in a large prospective before-after study over two years. We examined changes in job satisfaction with a questionnaire followed by selected interviews approaching all of the involved 25 ED staff members and 38 HGPs.

Results

The new emergency care model increased job satisfaction of ED staff and HGPs in all measured dimensions. The overall job satisfaction of ED employees improved from 76.5 to 83.9 points (visual analogue scale 0-100; difference 7.4 points [95%-CI: 1.3 to 13.5, p=0.02]) 86% of 29 HGPs preferred to provide their out-of-hours service at the new hospital-associated primary care centre.

Conclusions

The hospital-associated primary care centre is a promising option to improve job satisfaction of different health professionals in emergency care.

INTRODUCTION

Many developed countries are facing the challenge of increasing patient load in emergency care (Bindman et al., 2007; Derlet and Richards, 2000; Santos-Eggimann, 2002; Schneider et al., 2003). This leads to overcrowded Emergency Departments (ED) and thus, for example, to possibly dangerous time constraints, high physical demands, lower decision autonomy, less adequate work flows and less personal rewards for health care professionals at the ED. The consequence is decreased job satisfaction of health care professionals and a loss in quality of care (e.g. due to long waiting times). (Adriaenssens et al., 2011; Derlet and Richards, 2000; Swedish Council on Health Technology Assessment, 2010). But also general practitioners (GPs) are dissatisfied with their traditional out-of-hours emergency service. A Swiss study showed dissatisfaction with their traditional emergency service in 57.6% of 93 involved GPs. The most frequently mentioned reasons for dissatisfaction were “inappropriate payment” and “interference of emergency calls their daily work in practice” (Huber et al., 2011).

Additionally, the National Institute for Health and Care Excellence (NICE) announced this year a focus on the topic “safe staffing” (National Institute for Health and Care Excellence, 2014). Guidelines are planned to support planning in nursing staff requirements, also for accident and emergency departments. Thus, new service models for emergency health care are internationally needed and have already been established. For example GPs from the community have been involved in the treatment of walk-in patients with less urgent problems at the ED (Leibowitz et al., 2003).

In 2009 the City Hospital Waid in Zurich implemented a hospital-associated primary care centre at their ED, where GPs provide their mandatory out-of-hours

service in rotation. In this article they are called HGPs (hospital GPs). The aim of this study was to investigate changes in job satisfaction and wellbeing of ED staff before and after the implementation of this new service model and to measure HGPs' satisfaction and wellbeing at hospital-associated primary care.

METHODS

This study was embedded in a large prospective before-after study involving the implementation of a hospital-associated primary care centre at the ED. Prospective data collection was performed for the following topics: (i) patient care (e.g. out-of-hours service, hospital emergency care), (ii) health economic evaluation (e.g. costs of care, reimbursement from insurers) and (iii) satisfaction of patients, GPs, ED staff and HGPs. Most of the results of i-iii have been published elsewhere (Chmiel et al., 2011; Eichler et al., 2010; Eichler et al., 2014; Huber et al., 2011; Wang et al., 2014), but not yet the job satisfaction of the involved health professionals as a result of implementing the new service model.

Setting

The study was carried out at the ED of the City Hospital Waid in Zürich, Switzerland. The catchment population of this hospital is about 180,000. This urban hospital showed an annual growth rate of emergency medical visits of almost 7% between the years 2005 and 2008. The annual number of outpatient emergency contacts in the City hospital Waid increased from n=10 440 (baseline, 2007; only traditional ED at place) to n=16 326 (follow-up, 2011),

reflecting the general observed trend. In 2011, 52% (n=8478) of these emergency outpatients were treated in the ED and 48% (n=7848) in the hospital-associated primary care centre.

In Switzerland, patients with emergency medical problems can choose one of the following emergency services: (1) The GP of their own, (2) the Emergency Medical Service Telephone, which is operated during night time by a GP on duty and directs the patients to the suitable service without using any formal triage score, (3) some urban walk-in emergency centres or (4) a hospital emergency department.

Before the intervention, all emergency patients choosing the hospital ED for their treatment were treated in the traditional ED, regardless of their disease severity and no formal triage system was at place.

The out-of-hours-service of the GPs was and still is organised by the Emergency Medical Service Telephone Switchboard. All five emergency service areas in Zurich had a mandatory rotation system with out-of-hours-service from 7 a.m. to 7 a.m. the next day. From 10 p.m. to 7 a.m. an additional doctor provided telephone consultations and home visits.

Intervention

The checklist of the Cochrane EPOC-Group served as a guideline for this organisational intervention (Cochrane Effective Practice and Organisation of Care Group, 2013).

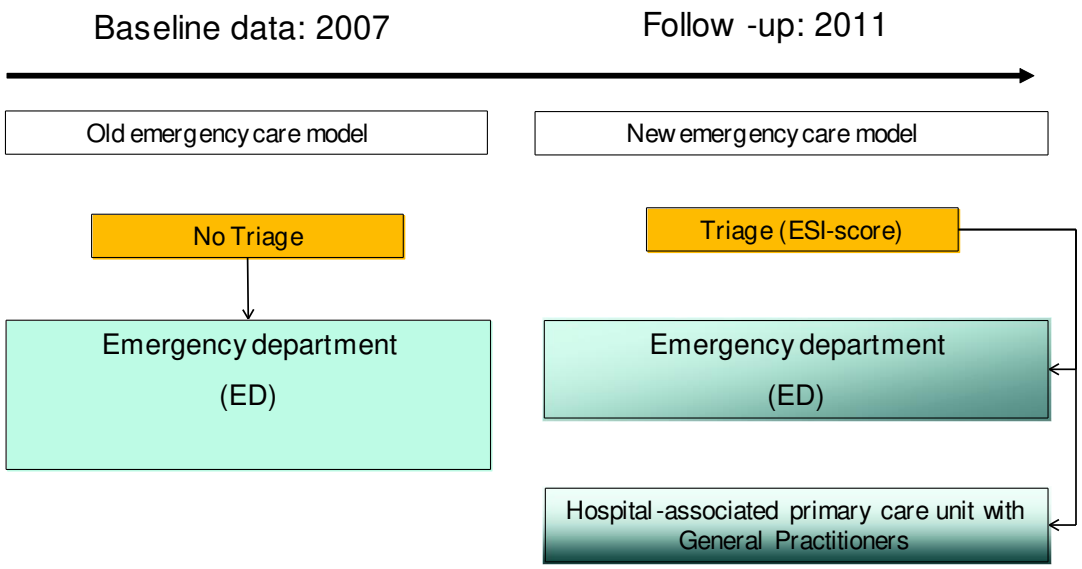
The hospital owner decided to focus the change strategy on structure of care (redesign of the patient flow process), as well as on provider-oriented issues

(formal integration of services). Besides the implementation of the new hospital-associated primary care centre, there were no other management changes performed (e.g. fusion of teams, staff change at the ED) which could have additionally influenced the way the ED staff worked or job satisfaction.

With the implementation of the new hospital-associated primary care centre at the ED in March 2009, GPs have the choice of performing their rotation system of out-of-hours-services either in the new hospital-associated primary care centre or in the traditional out-of-hours-service of the city organised by the Emergency Medical Service Telephone Switchboard. Emergency patients presenting at the hospital were triaged by a nurse, who had passed a specific training for reliable application of the triage instrument. The nurse estimated the Emergency Severity Index (ESI) with a score ranging from 1 “life threatening” to 5 “least severe” (Elshove-Bolk et al., 2007). Thereafter, patients arriving at hospital due to illness or injury were navigated either to the hospital-associated primary care centre with HGPs as a “fast track” (Guo and Harstall, 2006) or to the conventional hospital ED (Figure 1). Patients with an ESI score ≥4 were guided to the hospital-associated primary care centre. The opening hours of this new centre were weekdays from 9 a.m. to 10.30 p.m. and at the weekends from 10 a.m. to 10.30 p.m. At night (from 10.30 p.m. to 9 a.m.), patients were treated at the conventional hospital ED. Working periods for the HGPs were in rotation weekdays from 5 p.m. to 10.30 p.m. and the whole weekend. For the remaining time, an experienced hospital physician was on duty.

Detailed information about the intervention is published elsewhere (Eichler et al., 2014; Wang et al., 2014).

Figure 1: old model (2007) and new model (since 2009) of the emergency service at the city hospital Waid, Zurich



Subjects and data collection

Development of questionnaires. For the ED staff, the dimensions of job satisfaction were developed on the basis of the literature (Bovier and Perneger, 2003; Hossiep et al., 2007; McMurray et al., 1997; Rosta and Gerber, 2008). We chose the commonly used variable-set of MDsat (physician job satisfaction) as a model of job satisfaction (McMurray et al., 1997). We derived characteristics from these dimensions and formulated appropriate questions. The development process was reviewed by our multidisciplinary project team and two external experts (GP/ Psychologist and Health Care Researcher). To ensure face validity,

the questionnaire was pilot-tested by three ED staff members who did not participate in survey. We did not test the questionnaire formally for validity and reliability. The final questionnaire consisted of general personal details and ten 5-point-Likert-scale questions to measure different dimensions of job satisfaction (interdisciplinary relationship, daily work, administrative work, autonomy of ED staff and HGPs, perceived quality of care and role perception of GPs). In addition, a visual analogue scale indicated the overall job satisfaction (from 0 “lowest” to 100 “highest”).

The development of the questionnaire for HGPs’ satisfaction was supported by knowledge derived by the survey of GPs before the implementation of the hospital-associated primary care centre (Huber et al., 2011). The questionnaire had been pilot-tested by five HGPs before the implementation.

Besides general personal details, the questionnaire comprised 21 5-point-Likert-scale questions on the following dimensions: “Experience with patient care”, “organization of new centre and interprofessional work”. Furthermore the “satisfaction with the new emergency care system” and “opportunities of this new health service” were measured.

Emergency Department staff. The data were collected at three measuring times (at baseline: February 2009, before implementation of the new service model/ at interim: August 2009, five months after implementation/ at follow-up: September 2011, 19 months after implementation). The ED head physician distributed the questionnaires to all 25 staff members of ED (nurses and hospital physicians in charge) and monitored measurement during all three measuring time points. Team rotation during these 19 months was taken into account with a

special analysis of the participants who completed the questionnaire at all three measuring times. An anonymous analysis was performed outside the hospital.

Hospital General Practitioners. Data of HGPs were collected at two post-intervention measuring times (no baseline applicable because baseline measurement was before implementation of hospital-associated primary care/ at interim: August 2009/ at follow-up: August 2011). All HGPs (interim: n=34 / follow-up: n=38) working at the hospital-associated primary care centre were given a questionnaire to fill out. HGPs sent the questionnaires back anonymously to the research centre outside the hospital.

Qualitative data collection. In addition to the quantitative data collection, qualitative structured individual interviews with 6 selected ED ward employees and HGPs were conducted at two post-intervention measuring times (at interim: August 2009/ at follow-up: September 2011). Recruiting was performed by the ED head physician, who aimed to have a balanced mixture of experienced and less experienced persons. The participants received an information leaflet about the interview and gave written informed consent in advance. The interview lasted 45 minutes and used a combination of inductive and deductive approach. The interview consisted of four parts: a) description of a typical working day b) general questions about working situation c) questions about the workplace d) questions about the occupational group. The aim of these qualitative interviews was to complement and validate the quantitative analyses.

Data analysis

For the descriptive analysis, continuous variables were summarised as means (SD) and categorical data as frequencies. Differences in categorical data (Likert scale) were analysed with the non-parametric Mann-Whitney-U-Test. For continuous data, 95%-confidence intervals are provided. Data analysis was conducted with SPSS for Windows, version 18.0 (SPSS Inc., Chicago, Illinois). Analysis was done with the qualitative content analysis of Mayring (Mayring, 2008). Qualitative structured interviews were digitally recorded, transcribed and coded with the software ATLAS.ti. The definition of codes was developed during analysis, whereas final codes were used to revise all the transcripts at the end. To improve the reliability of analysis, two researchers performed analysis.

Approval of the study was given by the Ethics Committee of the Canton of Zurich (reference Nr. 26/09).

RESULTS

Job satisfaction of Emergency department staff

The response rate of questionnaires of ED staff was 80% (20/25), 72% (18/25) and 88% (22/25) for baseline, interim and follow-up. Staff characteristics showed a common distribution found in ED teams: more than 80% female and over 60% nurses (Table 1).

The overall job satisfaction of all ED ward employees improved significantly from 76.5 points (mean baseline) to 83.9 points (mean at last follow-up 2.5 years) resulting in a difference of 7.4 points (95%-CI: 1.3 to 13.5, p=0.02) of the VA Scale from 0-100 points (Figure 2). Mean overall job satisfaction only for the

participants who completed both measuring times (at baseline and follow-up, n=9) was 79.8 points at baseline and 84.1 points at follow-up.

The increase in overall job satisfaction in hospital physicians was significantly larger (mean difference between baseline and follow-up: 16.4 points; 95%-CI: 28.1 to 4.9, p=0.01) compared to the increase in job satisfaction of nurses (mean difference between baseline and follow-up: 2.7 points; 95%-CI: 9.3 to 3.9, p=0.4).

All dimensions of job satisfaction improved during the follow-up period. As the results for the different dimensions of job satisfaction at the interim measurement lay in general between baseline and follow-up results, such as for overall job satisfaction (Figure 2), we do not report the interim results to avoid data overload.

The dimensions “addressing individual needs of patients”, “personal work load”, “influence of work on physical health” and “influence of work on mental health” improved substantially (Figure 3). For example, the question “How can you address patient needs in your daily routine?” increased from 15% to 68% in the response category “good”.

Subgroup analysis of hospital physicians showed significant improvements in the dimensions “personal work load” and “influence of work on mental health” with Mann-Whitney-U-Test p-Values of 0.03 and 0.04 respectively, compared to non-significant results in nurses.

Table 1: Characteristics of ED staff at the three measuring points

	Baseline (n=20)	**Interim (n=18)**	**Follow-up (n=22)**
Age (in years)	36.3±8.3	37±9.1	38±9
Level of employment (in %)	93.2±17	96.1±9.2	90.5±18.3
Female sex	16 (84.2)	14 (77.8)	18 (81.8)
Profession: physician	6 (31.6)	7 (38.9)	7 (31.8)
Profession: nurse	13 (68.4)	11 (61.1)	15 (68.2)
In a leading position	4 (22.2)	3 (18.8)	4 (18.2)

Age and level of employment are reported as means± standard deviations (SD), other variables as frequencies (%).

Figure 2: Overall job satisfaction of ED staff according to VA Scale (0-100 points) in means (standard deviations) and box plots (maximum; 75% - 50% [median] – 25% percentiles; for all measuring intervals

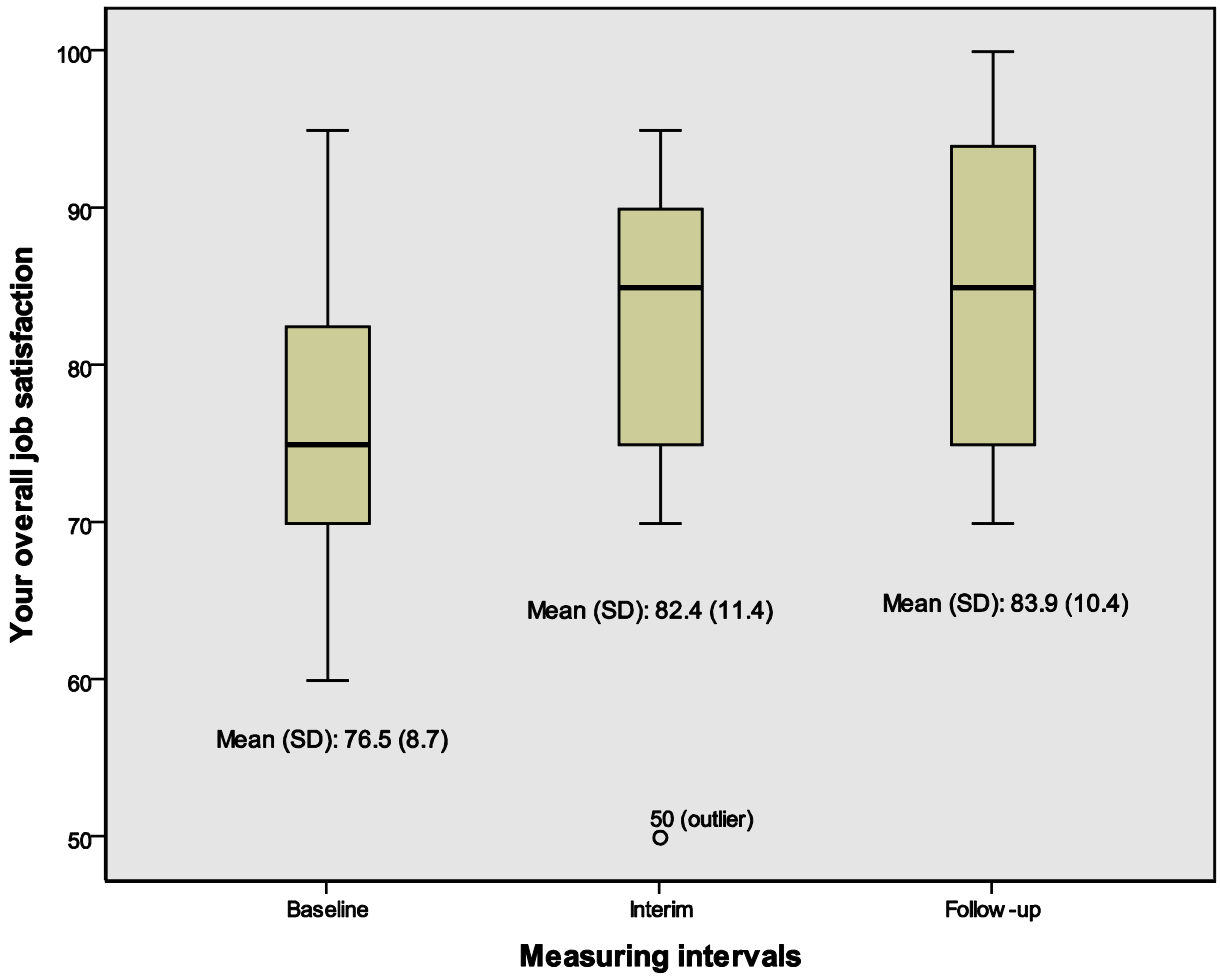


Figure 3.1: Job satisfaction of ED staff for baseline and follow-up (2 years)

* Significant P-value ≤0.05. Mann-Whitney-U-Test for baseline (n=20) and follow-up (n=24)

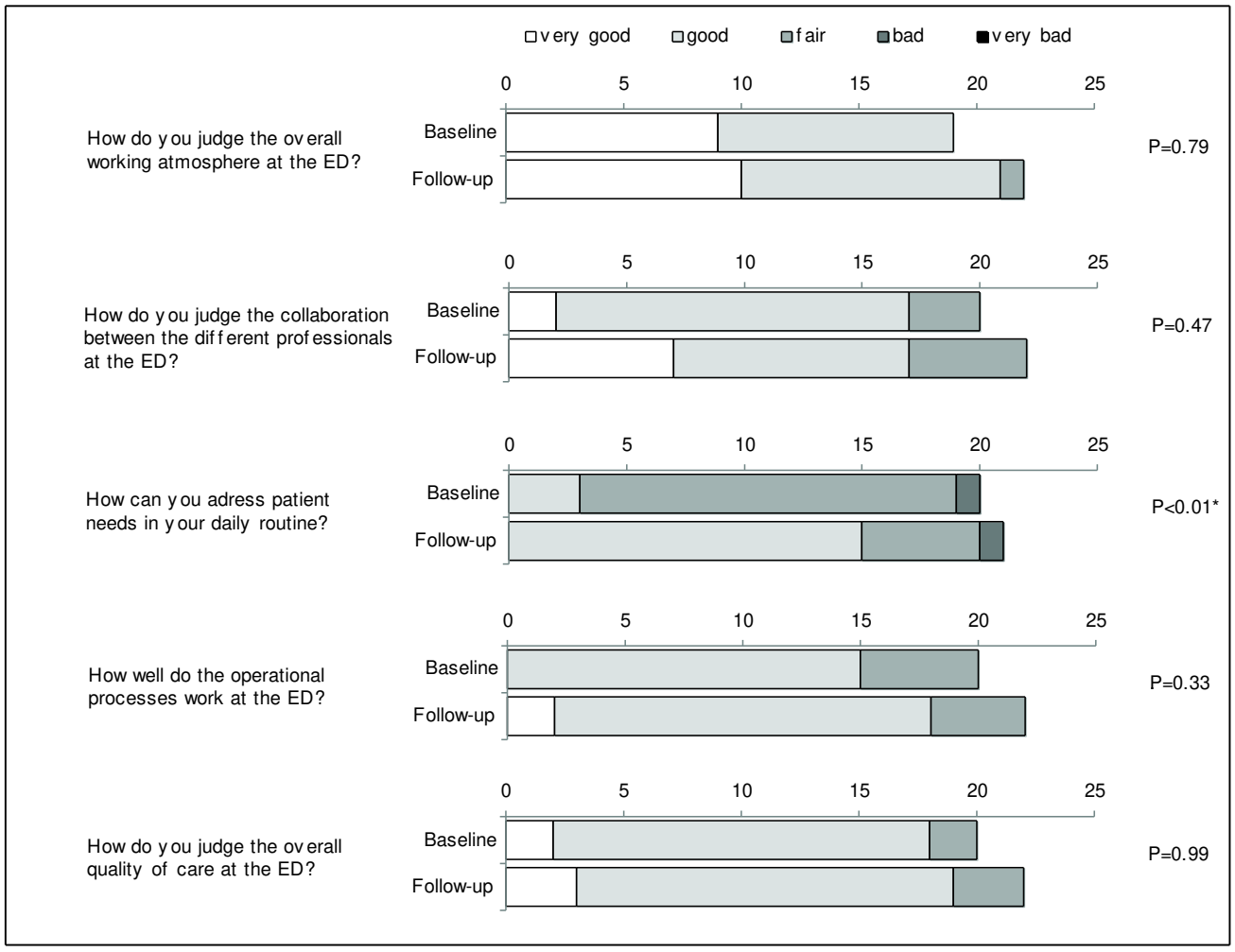
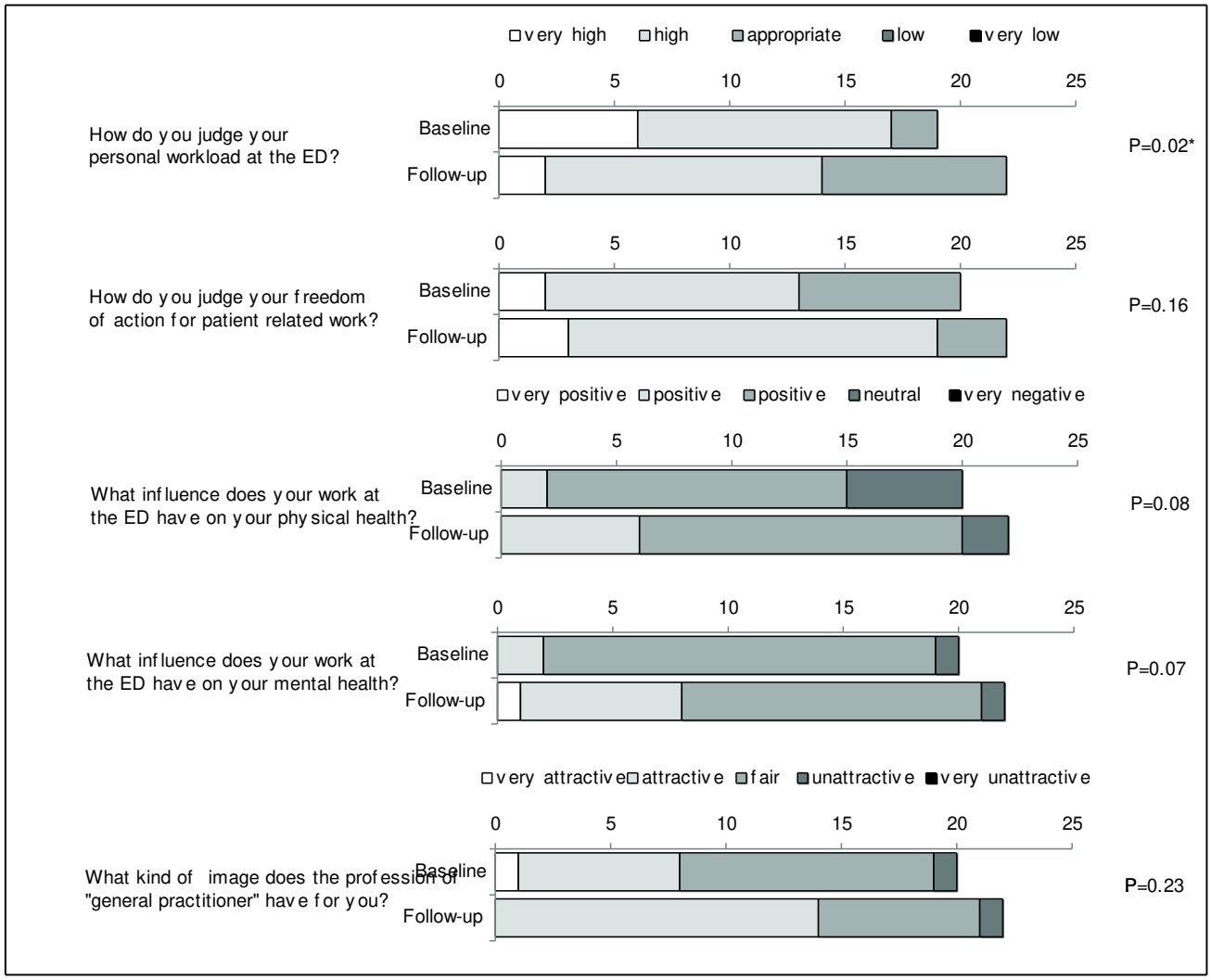


Figure 3.2 (continuing): Job satisfaction of ED staff for baseline and follow-up (2 years)

* Significant P-value ≤0.05. Mann-Whitney-U-Test for baseline (n=20) and follow-up (n=24)



Satisfaction of HGPs at the hospital-associated primary care centre

The response rate of HGPs' questionnaires was 85% (29/34) for interim and 76% (29/38) for follow-up measurements. HGP characteristics are similar in both measuring times. Most of the HGPs have more than 10 years working experience, including the traditional out-of-hour emergency service (13/29 respectively 14/29). More details are described in Table 2.

At follow-up, 86% (25/29) of HGPs preferred to perform their out-of-hours service at the new hospital-associated primary care centre, compared to the traditional out-of-hours service. Most frequent reasons of HGPs to favour the new service model were (multiple answers possible): "possibility of professional exchange" (77%), "less disturbance at own medical practice" (65%) and "no 24-hours-service anymore" (46%).

For 100% of HGPs the triage of patients at the hospital-associated primary care centre by the trained nurse works well. 90% of HGPs considered the teamwork with medical practice assistants (MPA) to be very satisfactory. Most HGPs believed that working as a HGP at the hospital-associated primary care centre encourages the positive perception of GPs (72%). Other results from the survey are shown in Table 3. Interim results pointed in the same direction as the follow-up results.

Table 2: Characteristics of HGPs at the two measuring points (no baseline applicable. Baseline measurement was before implementation of hospital-associated primary care)

	Interim (n=29)	**Follow-up (n=29)**
Age (in years)	49±9.4	51±8.4
female sex	13 (44.8)	12 (41.4)
Working in a group practice	24 (82.8)	25 (86.2)
Workload: Fulltime	13 (44.8)	8 (27.6)
Workload: part time ≥50%	15 (51.7)	19 (65.5)
Workload: part time <50%	1 (3.4)	1 (3.4)

Age is reported as means± standard deviations (SD), other variables as frequencies (%)

Table 3: Satisfaction of HGPs at follow-up (n=29)

	Completely disagree	**Disagree**	**I don't know**	**Agree**	**Completely agree**
I can address patient needs adequately	0	0	0	20 (69)	9 (31)
The collaboration with MPAs works well	0	0	0	3 (10.3)	26 (89.7)
The triage of patients at the hospital-associated primary care centre by the trained nurse works well	0	0	0	18 (62%)	11 (38%)
The professional exchange with hospital physicians works well	0	2 (6.9)	0	10 34.5)	17 (58.6)
Own practice management is less disrupted with this hospital associated emergency service compared to the traditional out-of-hours service	0	0	2 (6.9)	8 (27.6)	19 (65.5)
Overall, I find the hospital associated emergency service to be a burden	4 (13.8)	19 (65.5)	1 (3.4)	4 (13.8)	0
Overall, I am satisfied with this new service model	0	0	1 (3.4)	10 (34.5)	18 (62.1)
Compared to the traditional out-of-hours service, I prefer the hospital associated emergency service	0	0	2 (6.9)	4 (13.8)	21 (72.4)
To work at the hospital associated emergency service is promoting the positive public perception of GPs	1 (3.4)	3 (10.3)	4 (13.8)	8 (27.6)	13 (44.8)
	Very high	**High**	**Middle**	**Low**	**Very low**
The workload on weekdays is	1 (3.4)	10 (34.5)	15 (51.7)	0	1 (3.4)
The workload on the weekend is	2 (6.9)	15 (51.7)	10 (34.5)	0	1 (3.4)
The workload on the weekend evenings is	3 (10.3)	17 (58.6)	7 (24.1)	0	1 (3.4)

Results are reported in frequencies (%). Medical practice assistants (MPA), General Practitioner (GP)

Qualitative interviews

Qualitative structured interviews were conducted with six employees of the hospital-associated primary care centre and the ED (two HGPs, a MPA, two hospital physicians and a nurse). The statements of interviewed professionals lead to a better understanding of the results of the quantitative analyses.

Additional information generated by the qualitative analysis resulted in valuable insights into organisational change, interdisciplinary teamwork and the underlying reasons for change in job satisfaction.

Key topics generated through content analysis were “Working situation”, “Quality of patient care”, “Cooperation and Continuity”, “Failure management”, “Triage” and “Public perception of the new service”. For each key topic, we provide main results and some informative quotes or a synopsis from the qualitative analysis (translated from German to English). This enables the reader to get an impression of the original statements of the interviewed professionals and to gain an insight into organisational issues that were relevant for satisfaction:

- “Working situation”: This includes the work process and the workload, where the hospital associated primary care centre contributes a lot to the relief of the ED staff. However, also new problems arise with this new organisation.

[quote of hospital physician]…the negative aspect resulting from the implementation of the hospital-associated primary care centre is that young assistant physicians now see fewer banal cases at the ED, so that they can gain less experience in that field…

• “Quality of patient care”: This includes, for example, reduction of waiting time for patients or better ability to address patient needs. Overall quality of care was judged to be improved with the hospital associated primary care centre.

[quote of a senior physician] … We noticed that patients were more satisfied, especially the patients with less severe medical problems at the primary care centre because they were treated faster and could leave the hospital soon…and the nurses don’t have to calm down the waiting patients until the physician visit takes place…

• “Cooperation and Continuity”: This includes how staff of ED and hospital associated primary care centre work as teams together and if a continuity of care can be realised. The working atmosphere is considered to be good at the hospital associated primary care centre, but to maintain continuity of care is very difficult, as the HGP on duty is changing almost daily. The rotation of HGPs was also considered challenging for the MPA.

[quote of an MPA]…A positive aspect for HGPs is that they gain more insight into the hospital and they collaborate with hospital physicians, which improves the intercommunication. For example, hospital physicians say to the HGPs “Ah, you treated my patient”. HGPs appreciate that very much. And hospital physicians know whom they are dealing with…

[quote of a HGP]…I think some HGP colleagues do not feel accepted by residents. I think it has something to do with their own medical knowledge and how well you can say “I don’t know much about that“. I do not have any problems with that. I heard from a colleague that hospital physicians are arrogant; I never had this feeling…

- "Failure management": This includes the dealing with medical errors. ED staff and HGPs reported to have an open communication about medical errors.

[quote of hospital physician]…at the beginning we had a discussion with HGPs about the handling of errors. We agreed to be open-minded and to talk about it. That works quite well…

- "Triage": This includes the allocation of patients to the ED or hospital associated primary care centre via a triage score.

For example, ED staff mentioned that HGPs directed patients with possibly serious health problems faster than medically necessary from the primary care centre to the ED.

- "Public perception of the new service": This includes the image and perception of the new hospital associated primary care centre by the general public and by other not involved GPs in the community. There was an increasing positive feedback over time.

[quote of an MPA]…many patients don't know that we have this hospital associated primary care centre. At the beginning, GPs were sceptical, because we take some of their patients away. Now, I don't feel that scepticism anymore….

Our analysis showed that work plan, working time, teamwork, varied work and flexible working processes (employee friendly) were the most influencing factors for job satisfaction of HGPs and ED staff.

DISCUSSION

Results show a much higher improvement of overall job satisfaction for hospital physicians than for nurses. An explanation could be that the intervention of the hospital-associated primary care centre has more influence on the job and processes of physicians. According to the interviewed HGPs, this is due to great workload relief for physicians. Studies have shown that an association exists between high workload, job dissatisfaction and burnout among physicians (Tokuda et al., 2009; Williams, 2002). Thus, it is important to see that the dimensions “personal work load”, “influence of work on physical health” and “influence of work on mental health” improved substantially in ED staff after the implementation of the hospital-associated primary care (Figure 3). Only a minority of the HGPs (13.8%) felt the new emergency service to be a burden, which is in contrast to the majority (57.6%) of GPs surveyed in the traditional out-of-hours care model before implementing the hospital-associated primary care centre (Huber et al., 2011). As most of the HGPs were experienced with the traditional out-of-hours care model, we believe that the high overall satisfaction with the new model can be interpreted as a preferred alternative way for these GPs to provide their mandatory out-of-hours care.

Other studies have investigated the effect of a hospital-associated primary care centre on job satisfaction. The before-after study of Pickin et. al. (Pickin et al., 2004) established a general practice co-operative on the use of accident and emergency (A&E) departments services in the UK. Satisfaction of GPs working at the new primary care centre was assessed two years after the implementation of the new model. 67% (39/58) of GPs were satisfied with the new out-of-hours

service. 10% (3/29) of GPs, still working on the usual out-of-hours service, were satisfied with their job.

Another Dutch study (Kool et al., 2008) compared two integrated emergency posts (IEP; integrating the care provided by A&E departments and GP posts) with two control settings, namely traditional GP posts and A&E departments. Satisfaction of employees (GPs, nurses, physicians of A&E) of all settings was assessed one year after implementation of the IEP. Employees working at the IEP were less satisfied than their colleagues working at GP practice or A&E departments. The authors hypothesize that the reason for the effect can be seen in the dramatic change in work processes caused by introducing new care professionals and a new triage protocol.

Implications for decision makers and health services

In view of the emerging lack of GPs and nurses in Switzerland, it is important to create new and attractive health service models which increase the job satisfaction of GPs and nurses and enhance their prestige. Also in view of integrated health care, an omnipresent topic in the last years, this new model helps to bridge the gap between GPs and hospital physicians resulting in improved patient care. From the patient's perspective, access to emergency care should be easily provided. In this model, there is one single place of access for receiving the appropriate care. However, it should be considered that the need for home visits in out-of-hours services in Switzerland still exists. Other publications from this large before-after study clearly showed the interdependency and need of both service options due to divergent patient

demands and health problems in out-of-hours settings (Chmiel et al., 2011; Huber et al., 2011).

Strengths and limitations

Our methodological approach provides real world data of a prospective evaluation for an important patient oriented health service. The Waid City Hospital participated in an Evaluation-study with the validated benchmarking "emerge" tool (Schwappach et al., 2003), developed for quality control purposes for Swiss hospitals. The Waid City Hospital showed no significant differences compared to the other Swiss hospitals included in the study. Thus, it can be assumed that the data from the Waid City Hospital is representative of other Swiss hospitals.

Some limitations have to be mentioned: Firstly, our study is an observational study and confounding cannot be ruled out. Secondly, data collection was performed during different seasons (baseline: February, follow-up: September) which might have influenced job satisfaction because of seasonality of ED patients and workload. Finally, our sample was small, but we covered the unit under change as a whole to have all organisational dimensions in the focus. As the change in job satisfaction is of relevant magnitude, the difference gets statistically significant even in a small sample size. In addition, the features of the assessed hospital emergency department are representative for many other Swiss hospitals, strengthening the external validity of our findings (Schwappach et al., 2003). Furthermore, response rates were high, ranging from 72% to 88% over all measurement periods. Additional qualitative interviews of staff members

provided a deeper understanding of the change process and enabled us to check quantitative outcome data for coherency.

CONCLUSIONS

Overall job satisfaction of ED staff and satisfaction of HGPs improved significantly and the majority of HGPs preferred the new out-of-hours care. The hospital associated primary care centre as a new emergency health care model at the ED is a promising option to improve job satisfaction and job attractiveness of different health professionals currently under pressure.

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Keywords

Hospital medical staff, emergency department, job satisfaction, health service research, Emergency Medical Services, primary health care

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